GRADIENT SEQUENTIAL COMPRESSION SYSTEM FOR PREVENTING DEEP VEIN THROMBOSIS

Abstract of the Disclosure

A gradient sequential compression system for preventing deep vein thrombosis includes a pressure-based system controller for controlling transfers of air from a source of pressurized air to inflatable chambers of a limb sleeve, so that a prophylactic modality is provided to the limb. The controller also includes a plurality of feeder valves pneumatically connected to each of the chambers and a microprocessor-based control unit for opening only one of the feeder valves at a time during an inflation cycle, so that each of the chambers can be independently inflated to predetermined pressure levels. The control unit also regulates the pressures in each of the chambers at the respective pressure levels by repeatedly independently measuring the pressures in the chambers and adjusting the pressure levels upward or downward, if necessary. The predetermined pressure levels can be default levels or selected by a user or health care professional for a particular application. In addition, the system controller can be programmed into a variety of modes for one or two-limb operation, for handling sleeves of varying length, or for providing different pressure cycles to the sleeves. The programming of the system controller can either be performed manually by the user through a display interface or by the use of a universal connecting device that senses the mode of operation associated with a sleeve connected thereto and automatically configures the system controller.